

Mineral Industry Surveys

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ZINC IN AUGUST 2002

Domestic mine production in August, at 69,600 metric tons (t), was about 1% more than in July and about 1% less than in August 2001. Smelter production, at 16,200 t, was about 15% less than in July and about 18% less than a year before. Apparent consumption, at 99,400 t, was about 28% higher than in July and about 30% higher than in August 2001.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc decreased by about 5%, to 37.27 cents per pound in August. Compared with August 2001, the decrease was about 10%.

In a Chapter 11 bankruptcy filing, Horsehead Industries Inc., the parent company of the largest zinc producer in the United States (Zinc Corporation of America), claimed \$215 million in assets and \$231 million in liabilities. The largest secured creditor is Viacom Inc., with a claim for \$76 million secured by property. The State Street Bank and Trust Co. is its largest unsecured creditor, with \$11 million, followed by the United Steelworkers Union with a claim of \$10 million in retiree benefits. Other unsecured debts include much smaller amounts owed to Glencore Trading AG (\$826,000) and Pechiney Group (\$304,000) (Platts Metals Week, 2002c).

Finnish metal producer Outokumpu Oy is to resume production at its Tara zinc mine in Ireland in September of this year. The company hopes to be in position to fully benefit from the forecast upturn in the zinc market in 2003. The reopening will also help to secure supplies for its consumers, including Outokumpu's two smelters. Outokumpu expects to produce about 60,000 t of zinc in concentrate during the remainder of 2002 and reach a production rate of 200,000 t the following year after completing development of its southwest extension and newly acquired Bula deposit. The company suspended production at Tara last November, citing low zinc prices and plans to exit from mining in favor of smelting as well as developing and marketing new processing technology for other smelters. Although zinc prices are currently low and Outokumpu does not anticipate a significant rise until stocks levels decline, the company believes that the first signs of a recovery in demand are slowly emerging. Already the recent

oversupply of concentrate, mainly due to increasing imports by China, has moved into a deficit position that favors miners. The Tara Mine, which began operation in mid-1970s, is located near Navan in County Meath, about 40 kilometers northwest of Dublin, Ireland. When production resumes, about 670 employees are expected to be re-employed in addition to the 400 who worked at the plant during the improvement program (Platts Metals Week, 2002e).

Only a month after disclosing its intention to convert the Noyelles-Godault smelter in France from primary to secondary production, Metaleurop SA has announced that it is considering selling its Nordenham electrolytic zinc smelter in Germany. The company has already begun negotiations with prospective buyers, although no names were revealed. One of the possible interested parties is Xstrata Plc, the Swiss resource company, which, like Metaleurop, is partly owned by Glencore International AG of Switzerland. Unlike operations at Noyelles-Godault, the Nordenham plant is not closely integrated, making it easier to sell. The decision to sell, rather than converting it to secondary production, was partly based on the possibility that there may not be enough secondary zinc available for both plants. Metaleurop, however, is not the only company that is trying to exit the depressed zinc market. MIM Holdings Ltd. of Australia is searching for a buyer for its Avonmouth smelter in the United Kingdom and its Duisburg operation in Germany and indicated that it may close both smelters if no buyer is found (Metal Bulletin, 2002b).

The Spanish Ministry of the Environment has raised a \$44 million claim against Boliden Apirsa S.L., the Boliden Ltd. subsidiary that was operating the Los Frailes mine in 1998 when a tailings dam collapsed, spilling toxic sludge into a nearby river and causing widespread environmental damage. The Ministry is trying to recover the cost for restoration work it carried out after the dam failed. Boliden claims that it was cleared of any responsibility by a criminal investigation, which attributed the dam failure to defects in the construction and mistakes in the geological assessment of the ground upon which the dam was built. Boliden is redirecting all claims against the company to

those responsible for the construction of the dam. Los Frailes was closed down for 15 months after the accident. It reopened at the end of 1999, but was closed again in October 2001. After the final closing, the regional government in Andalucia agreed that it would take over the responsibility for decommissioning the mine (Metal Bulletin, 2002a).

Sales by La Oroya smelter in Peru are expected to decline by about 16% this year, compared with 2001. Although output has remained virtually unchanged for 3 years, the value of production has been declining every year due to falling zinc prices. In order to compensate for loss of revenue, the smelter began focusing on production of precious metals and alloys, for added value from sales of products. In 2002, La Oroya is to produce 120,000 t of refined lead, 78,000 t of zinc, 65,000 t of copper, 1,070 t of silver, and 2.3 t of gold bullion. The company had completed an arsenic trioxide plant and run-off treatment plant this year and began work on a waste disposal plant. These investments are part of a \$304 million, 10-year program to modernize the smelter and meet international environmental standards (Platts Metals Week, 2002d).

The creditors of the Australian zinc producer Pasminco Ltd. approved a proposal to restructure the company. The so called "equity and float," approved on August 30, will help Pasminco to emerge from administration control and try to recapture its position as the world's largest zinc producer. The restructuring involves the issue of shares in lieu of debt payment to Pasminco's creditors and financiers, who are collectively owed about \$1.5 billion. This equity would then be partially sold in a public offering, with the creditors retaining a residual stake in the company. With the company free of its debt burden, it will be well placed to take advantage of the upswing in the zinc prices following the anticipated recovery of the global economy. In addition to the Century Mine, which is the company's foundation for recovery, Pasminco would retain its Roseberry Mine, the 215,000-metric-ton-per-year (t/yr) Hobart smelter and the 40,000-t/yr Port Pirie smelter, all in Australia, and the 215,000-t/yr Budel smelter in the Netherlands. The Pasminco's Elura Mine and Cockle Creek smelter, both in Australia, and its entire U.S. operation will remain on sale (Platts Metals Week, 2002f).

Since the early 1990s, China has dominated the global zinc market, having a seemingly inexhaustible supply of zinc resources. This, however, may be about to change. According to some experts, Chinese output of refined zinc in 2002 may decline for the first time since 1983 by up to 10% compared with 2001 (Mining Journal, 2002).

Update

The unusually long renovation and upgrading of Big River Zinc Corp.'s zinc smelter in Sauget, IL, caused by low prices

and subsequent negative cash flow, was completed in September. The work began in June and cost more than \$10 million. The upgrade should decrease labor and maintenance costs and improve operations (Platts Metals Week, 2002a).

On September 12, 2002, the U.S. Environmental Protection Agency (EPA) issued its decision on mining-related heavy metal pollution in the Spokane River basin in Washington State and the Coeur d'Alene River basin in Idaho. Responsibility for at least part of a planned \$359 million cleanup of tailings-contaminated soil belongs to Hecla Mining Co. and Asarco Inc., (subsidiary of Grupo Mexico S.A. de C.V.), both of whom operated lead and zinc mines in the Coeur d'Alene District, near the cities of Wallace and Kellogg. Together with other smaller companies, the two firms were sued by EPA for \$1 billion in environmental damages. The EPA also is seeking \$12 million to \$20 million per year from the U.S. Congress for the cleanup (Platts Metals Week, 2002g).

Teck Cominco Ltd.'s Cajamarquilla zinc refinery outside Lima began operation on September 1. The 120,000-t/yr refinery was closed for 3 months owing to poor market conditions, which prompted Teck Cominco to cut total output at its two smelters by 55,000 t in 2002. Cajamarquilla products include special high grade zinc and zinc alloys, one-third of which is sold to domestic consumers and most of the remaining two-thirds is exported to the United States and Japan. The refinery also produces 300,000 t of sulfuric acid, 300 t of cadmium, 1,000 t of copper cement, and 1,500 t of silver concentrate. Expansion of the refinery, contemplated before zinc prices began to decline, remains on hold pending better market conditions (Platts Metals Week, 2002b).

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TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

	2002				
	2001	June	July	August	January- August
Production:					
Mine, zinc content of concentrate	842,000	66,400	68,600 r/	69,600	526,000
Mine, recoverable zinc	799,000	63,800	66,000 r/	67,100	506,000
Smelter, refined zinc	299,000	23,700 r/	19,100 r/	16,200	179,000
Consumption:					
Refined zinc, reported	543,000	34,400	34,300	35,800	265,000
Ores e/ (zinc content)	727	61	61	61	485
Zinc-base scrap e/ (zinc content)	191,000	15,900	15,900	15,900	111,000
Copper-base scrap e/ (zinc content)	176,000	14,700	14,700	14,700	117,000
Aluminum- and magnesium-base scrap e/ (zinc content)	1,430	120	120	120	956
Total e/	912,000	65,100	65,000 r/	66,500	495,000
Apparent consumption, metal 2/	1,140,000	89,800 r/	77,500 r/	99,400 3/	785,000
Stocks of refined (slab) zinc, end of period:					
Producer 4/	7,380	6,670	6,830	7,010	XX
Consumer 5/	57,100	57,400	57,300	57,200	XX
Merchant	10,300	9,400	10,200	10,100	XX
Total	74,700	73,500	74,300	74,300	XX
Shipments of zinc metal from Government stockpile	17,900	741 r/	890 r/	445	3,910
Imports for consumption:					
Refined (slab) zinc	813,000	58,400	83,000	NA	522,000 6/
Oxide (gross weight)	72,000	6,100	6,380	NA	40,600 6/
Ore and concentrate (zinc content)	84,000	11,800	6,020	NA	72,100 6/
Exports:					
Refined (slab) zinc	1,180	81	184	NA	740 6/
Oxide (gross weight)	11,300	961	736	NA	6,500 6/
Ore and concentrate (zinc content)	696,000	4,920	194,000	NA	262,000 6/
Waste and scrap (gross weight)	44,000	2,770	3,300	NA	24,700 6/
Price:					
London Metal Exchange, average, dollars per metric ton	\$885.43	\$766.75	\$794.45	\$747.24	\$783.51
Platts Metals Week North American Special High Grade, average, cents per pound	43.96	38.04	39.30	37.27	38.80

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data based on reported consumption, stocks, and estimated trade data.

4/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

5/ Includes an estimate for companies that report annually.

6/ Includes data through July only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2001:				
August	7,340	19,800	20,600	6,540
September	6,540	24,800	24,500	6,760
October	6,760	19,900	19,900	6,750
November	6,750	20,000	19,500	7,210
December	7,210	18,400	18,200	7,380
Year	XX	299,000	299,000	XX
2002:				
January	7,380	24,600 r/	21,200 r/	10,800
February	10,800	25,600 r/	25,400 r/	11,000
March	11,000	22,700 r/	24,000 r/	9,760
April	9,760	23,400 r/	23,800 r/	9,420
May	9,420	23,900 r/	25,800 r/	7,470
June	7,470	23,700 r/	24,500 r/	6,670
July	6,670	19,100 r/	18,900 r/	6,830
August	6,830	16,200	16,000	7,010
January-August	XX	179,000	180,000	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2002				January- August
	2001	June r/	July r/	August 2/	
Galvanizing:					
Sheet and strip	432,000	37,000	31,800	40,300	326,000
Other	146,000	13,500	10,700	15,000	123,000
Total	578,000	50,400	42,600	55,300	449,000
Brass and bronze	148,000	14,000	12,300	16,500	130,000
Zinc-base alloy	190,000	19,200	17,100	21,000	156,000
Other uses 3/	226,000	6,200	5,600	6,600	49,900
Grand total	1,140,000	89,800	77,500	99,400	785,000

r/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data based on reported consumption, stocks and estimated trade data.

3/ Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES 1/

Period	North American	LME cash	
	¢/lb.	¢/lb.	\$/t
2001:			
August	41.31	37.54	827.68
September	39.97	36.21	798.21
October	38.04	34.52	761.14
November	38.39	35.04	772.49
December	37.48	34.21	754.28
Year	43.96	40.16	885.43
2002:			
January	39.23	35.96	792.86
February	38.23	34.97	770.86
March	40.30	37.15	818.96
April	39.89	36.64	807.80
May	38.16	34.89	769.19
June	38.04	34.78	766.75
July	39.30	36.04	794.45
August	37.27	33.89	747.24
January-August	38.80	35.54	783.51

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC 1/

Material	2001		2002 2/			
	Quantity (metric tons)	Value (thousands)	July		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,180	\$1,290	184	\$174	740	\$695
Ore and concentrate (zinc content)	696,000	285,000	194,000	94,200	262,000	119,000
Waste and scrap (gross weight)	44,000	22,800	3,300	1,610	24,700	12,400
Powders, flakes, dust (zinc content)	4,690	7,230	419	621	3,050	4,560
Oxide (gross weight)	11,300	17,600	736	772	6,500	9,240
Chloride (gross weight)	1,730	1,630	215	201	1,180	1,230
Sulfate (gross weight)	4,780	2,900	226	173	1,840	1,150
Compounds, other (gross weight)	227	499	19	37	124	298

1/ Data are rounded to no more than three significant digits.

2/ Data for August 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2001		2002 2/			
	Quantity (metric tons)	Value (thousands)	July		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	813,000	\$773,000	83,000	\$67,500	522,000	\$432,000
Ore and concentrate (zinc content)	84,000	31,600	6,020	2,300	72,100	27,400
Waste and scrap (gross weight)	39,300	11,600	2,980	771	17,200	5,060
Powders, flakes, dust (zinc content)	26,700	45,000	2,980	4,540	17,700	27,500
Oxide (gross weight)	72,000	66,200	6,380	5,220	40,600	33,700
Chloride (gross weight)	946	1,020	50	44	394	407
Sulfate (gross weight)	16,200	7,330	959	580	12,200	6,400
Compounds, other (gross weight)	1,400	1,360	164	148	684	659

1/ Data are rounded to no more than three significant digits.

2/ Data for August 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2001:			
August	125,000	3,340	122,000
September	122,000	1,680	120,000
October	120,000	--	120,000
November	120,000	--	120,000
December	120,000	100	120,000
Year	XX	17,900	XX
2002:			
January	120,000	220	120,000
February	120,000	--	120,000
March	120,000	202	120,000
April	120,000	197	119,000
May	119,000	1,220	118,000
June	118,000	741 r/	118,000
July	118,000	890 r/	117,000
August	117,000	445	116,000
January-August	XX	3,910	XX

r/ Revised. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/ 2/

(Metric tons)

Material and country	General imports			Imports for consumption		
	2001	2002 2/		2001	2002 2/	
		July	Year to date		July	Year to date
Ore and concentrate (zinc content):						
Australia	17,200	--	30,600	17,200	--	30,600
Ireland	--	3,260	3,260	--	3,260	3,260
Mexico	10,700	2,750	9,380	10,700	2,750	9,380
Peru	54,900	--	28,700	54,900	--	28,700
Other	1,150	17	105	1,150	17	105
Total	84,000	6,020	72,100	84,000	6,020	72,100
Blocks, pigs, or slab:						
Australia	55,700	7,000	35,000	29,700	--	21,000
Brazil	17,900	1,330	11,300	17,900	1,330	11,300
Canada	442,000	47,100	305,000	438,000	47,100	305,000
China	31,800	2,980	27,800	7,260	8	28
Kazakhstan	88900	16,000	61,500	88900	16,000	61,500
Korea, Republic of	30,600	13,000	48100	10,800	1,660	1,670
Mexico	141,000	12,000	85,000	140,000	12,000	85,000
Peru	48,800	2,590	19,000	47,600	2,590	17,000
Poland	8,530	--	5,890	8,530	--	5,890
Russia	14,400	879	2140	14,400	879	2,140
South Africa	7,030	1,270	4240	7,030	1,270	4,240
Other	16,300	270	22,500	3,270	271	7,060
Total	903,000	104,000	628,000	813,000	83,000	522,000
Dross, ashes, fume (zinc content)	12,000	1,300	8,490	12,000	1,300	8,490
Grand total	999,000	112,000	708,000	909,000	90,300	603,000
Oxide (gross weight):						
Canada	47,500	4,000	25,900	47,500	4,000	25,900
China	227	120	618	227	120	618
Japan	1,110	50	472	1,110	50	472
Mexico	18,900	1,890	11,400	18,900	1,890	11,400
Netherlands	2820	290	1770	2820	290	1770
Other	1,390 r/	31	401	1,390 r/	31	401
Total	72,000	6,380	40,600	72,000	6,380	40,600
Other (gross weight):						
Waste and scrap	39,300	2,980	17,200	39,300	2,980	17,200
Sheets	7,240	137	756	7,240	137	756
Powders, flakes, dust (zinc content)	26,700	2,980	17,700	26,700	2,980	17,700

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data for August 2002 were not available at time of publication.

Source: U.S. Census Bureau.